

# Student survives four-story fall at fraternity

## 18-year-old falls through skylight at party

By Anne Cai  
EDITOR IN CHIEF

An 18-year-old MIT student fell four stories through a skylight at MIT fraternity Phi Sigma Kappa during a party shortly after 11:30 p.m. Wednesday night. The student, who asked MIT to not release his name, was taken to Brigham and Women's Hospital. He is alert and has no life-threatening injuries, according to a statement released by the MIT News Office yesterday, and "student life officials are gathering further information about the circumstances surrounding the events that evening."

According to Boston.com, witnesses told Boston police that prior to the fall, the student was "jumping up and down" on

the plexiglass skylight which then broke. City inspectors were at Phi Sig throughout Thursday, according to New England Cable News, and a number of license premise violations were issued.

The building's owners were cited for illegally knocking down walls between 485 and 487 Commonwealth Avenue (Phi Sig owns both adjacent properties), constructing an unsafe and illegal roof deck, "using an existing rooftop as a roof deck on top of an unprotected roof membrane," and not installing rails or any other protection on the roof, NECN reported based on information from the Boston Inspectional Services Department. A spokesperson for the department said to NECN that she did not know the date of the building's last inspection.



TAMI FORRESTER—THE TECH

An 18-year-old MIT student fell four stories through a skylight at fraternity Phi Sigma Kappa shortly after 11:30 p.m. Wednesday. The student is alert and did not sustain any life-threatening injuries.

# ASE results fluctuate little

## Freshmen better at chemistry, worse at physics

By Rosa Ruiz

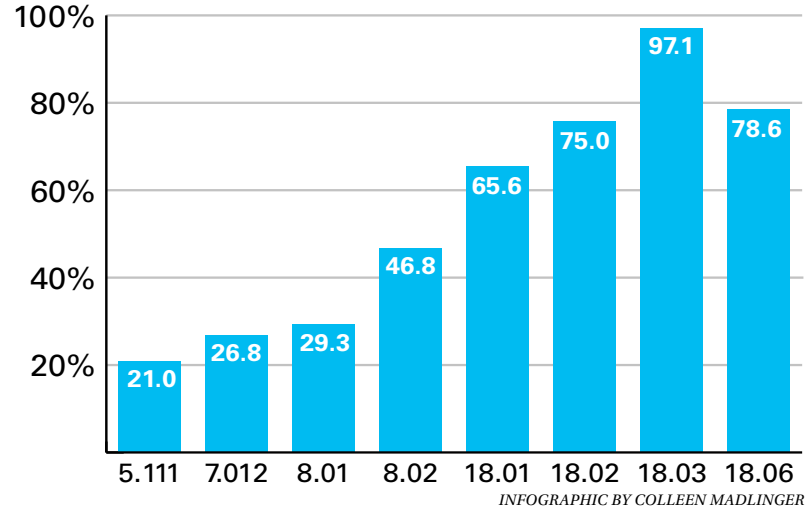
This year's freshmen did remarkably well on the Chemistry (5.111) Advanced Standing Examination (ASE) — the pass rate for increased from around 14 percent in past years to 21 percent. In other

subjects, though, the pass rates either remained the same or decreased.

The ASEs were originally implemented because the material in AP classes was not equivalent to MIT

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### ASE Pass Rates



INFOGRAPHIC BY COLLEEN MADLINGER

# The swallowing of the shrew

## Ig Nobel Prize ceremony awards improbable research

By Kath Xu

ASSOCIATE NEWS EDITOR

How far would you go in the name of science? Last night, 10 new Ig Nobel Prizes were awarded to scientists who had succeeded in publishing "improbable" research at the 23rd First Annual Ig Nobel Prize Ceremony.

The event, which took place

in Sanders Theater at Harvard University, honored researchers whose works not only makes people laugh, but also made them think about their (however improbable) implications. Five "genuinely bemused" Nobel Laureates were on hand to give the Ig Nobel winners their prizes and a handshake.

The awards were presented in

10 categories — medicine, psychology, biology and astronomy (joint), physics, chemistry, archaeology, peace, probability, and public health. Winners came from five continents to attend the ceremony and accept their prizes, which included a sturdy plaque (a winner dropped his

Ig Nobel, Page 9

# Scholars skeptical toward Syria strike

## Panelists discuss state of Syria, arms control, credibility, deterrence

By Hairuo Guo

The MIT Center for International Studies hosted a panel on Wednesday to discuss the recent developments in the Syrian conflict as part of its Starr Forum series of public events. The talk was held in the Bartos Theater of the MIT Media Lab and moderated by John Tirman, executive director of the Center for International

Studies. It focused mainly on the use of chemical weapons that occurred on Aug. 21 and the Obama Administration's call for military action in the wake of the attacks.

Approximately 100 audience members filled the small theater to listen to the three panelists Augustus Richard Norton, Jeanne Guillemin, and Barry Posen give insight on their areas of specialty and shared the questions posed

in the session afterwards.

Norton, professor of International Relations at Boston University and former U.S. Army Officer, began with the chaos and complexity of the Syrian conflict in relation to the Lebanese Civil War, which lasted from 1975 to 1990. Syria has one fourth of the civilian population displaced,

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### IN SHORT

Sept. 15 is the deadline to waive the MIT Student Extended Insurance Plan or to enroll your family. Go to [medweb.mit.edu](http://medweb.mit.edu) for more information.

Tickets for the Fall Festival comedy show, featuring John Mulaney, will go on sale on Friday starting at 9 a.m. at [http://mit.universitytickets.com/user\\_pages/event\\_listings.aspx](http://mit.universitytickets.com/user_pages/event_listings.aspx).

Come listen to Ig Nobel-winning researchers describe their research at the Ig Informal lectures will happen on Saturday at 1 p.m. in 26-100.

Career Week is next week! See a schedule at [career-fair.mit.edu](http://career-fair.mit.edu).

Send news information and tips to [news@tech.mit.edu](mailto:news@tech.mit.edu).

## \$25 million for new center to study intelligence

The National Science Foundation announced Monday that it would award \$25 million over five years to a new MIT-based Center for Brains, Minds and Machines. Researchers at the center will endeavor to both understand intelligence in humans and create intelligence in computers.

"50 years have gone by, and it's time to try again," Tomaso Poggio said, referring to unfulfilled dreams from the early days of artificial intelligence. Poggio, a brain sciences professor, will be the head of the new center.

Poggio emphasizes both interdisciplinary and inter-institutional collaboration. "There is no single person that can solve the problem of the brain," he said. The center's website includes in its vision

"cross-fertilization between computer science, math and statistics, robotics, neuroscience, and cognitive science," and lists 26 partner companies and institutions, including managing partners at Harvard University and Cornell University.

Before the 1980s, many artificial intelligence researchers took a "symbolic" approach, building systems that manipulated symbols according to certain rules. Later approaches would include leveraging computers' processing power to analyze troves of data.

The result was machines that were extremely good at specific tasks like playing chess or Jeopardy, or searching the Internet. Yet

machines today cannot carry on a convincing conversation or explain the beliefs and intentions of people in a short video.

"There is still no intelligent machine," Poggio said. But he hopes that advances in computer science, neuroscience, and cognitive science will change that.

He said that the center would pursue four broad directions of research: how intelligence works in terms of "algorithms and strategies," how intelligence is implemented in neural circuits, how intelligence develops in children, and how intelligence makes sense of social situations.

The center, which will be funded under the NSF's Science and Technology Centers: Integrative

Partnerships program, has started to hire graduate students and postdoctorates, according to Poggio. The center will also sponsor sabbaticals for professors at other universities, center manager Kathleen Sullivan said.

The center is required to have an educational component as well, according to Sullivan, and will host seminars, workshops, summer programs, and — an NSF press release adds — online courses.

"It's not something that will be solved in 10 years. This is one of the oldest problems mankind has been thinking about," Poggio said. But, he says, "I think we have the expertise together to make a dent in it"

—Leon Lin

### FUNDING AND MAILING LISTS

If you're on enough mailing lists, you don't have to organize or plan your life. **FUN, p. 7**

### THE NAME OF THE WIND

A fantasy world better than all the others. **ARTS, p. 5**

### BOOK AROMAS AND YOU!

Are you normal, or are you a college student? **FUN, p. 7**



### SECURITY: REDUCTION ABSURDUM

What would professional security workers do if Jesus tried to visit? **FUN, p. 7**

### I LOVE SMALL TALK!

Said no one ever. **FUN, p. 8**

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## European lawmakers expand power of Central Bank

BRUSSELS — EU legislators overwhelmingly approved Thursday a law that puts about 130 of the eurozone’s largest banks under the scrutiny of the European Central Bank.

The legislation contains provisions that would give the European Parliament somewhat more oversight of the ECB when the bank assumes its new authority. The vote is an important development, but not the final one, in a winding process that began in early 2012, during one of the most fevered periods in the eurozone financial crisis.

The measure still needs approval from EU governments to take effect, though that is expected to be a formality. The Single Supervisory Mechanism it creates is expected to start work during the autumn of 2014 after the ECB conducts a “stress test” on the lenders coming within its purview.

—James Kanter, *The New York Times*

## Aquifers discovered in drought-ridden Kenya

NAIROBI, Kenya — The United Nations and Kenyan officials on Wednesday announced the discovery of a previously unknown but potentially enormous underground water supply, a find they said might improve the lives of generations of people in impoverished northern Kenya, if not the entire nation.

With water security a growing concern around the world, the discovery of five aquifers in drought-plagued Turkana County could help secure Kenya’s access to the most critical of natural resources, particularly in the arid north. Out of a total Kenyan population of roughly 41 million people, 17 million lack sufficient access to safe drinking water and 28 million are without adequate sanitation, said the United Nations Educational, Scientific and Cultural Organization.

—Nicholas Kulich, *The New York Times*

## CA might raise minimum wage

LOS ANGELES — California’s top lawmakers on Wednesday pledged their support for a plan to raise the minimum wage in the state to \$10 an hour, which could soon give California workers the highest minimum pay rate in the country.

In a rare show of backing for pending legislation, Gov. Jerry Brown, a Democrat, announced his “strong support” for a bill in the state Legislature that would raise the minimum wage to \$10 per hour from \$8 by the start of 2016. Currently, Washington state has the highest minimum wage of any state, at \$9.19 per hour.

Leaders of the Legislature, where Democrats hold majorities in both houses, also announced their support for the bill Wednesday, all but guaranteeing its passage before the legislative deadline Friday.

—Ian Lovett, *The New York Times*

# Opposition leader asserts broad problems in Moscow mayoral race

By David M. Herszenhorn  
*THE NEW YORK TIMES*

MOSCOW — The Russian opposition leader, Aleksei A. Navalny, on Thursday submitted to a court more than 50,000 pages of documents illustrating what he said were irregularities in Sunday’s voting in the Moscow mayor’s race in an attempt to prove that he won enough votes to force a runoff against the incumbent, Sergei S. Sobyenin.

But the court refused to block the inauguration of Sobyenin, who barely cleared the threshold for an outright victory with 51.4 percent. He was sworn in on Thursday evening during a ceremony in the city’s World War II museum. According to the official returns, Navalny placed

second with 27.2 percent.

Yet, even as Navalny and his aides lugged 21 boxes of documents to the courthouse, they acknowledged not only that there was little hope of overturning the results, but that the voting had been relatively fair. So they have adopted a new message: while the vote was generally free of blatant fraud like ballot stuffing, the election itself was rigged from the beginning.

“Our position is that these were unfair elections,” Navalny’s campaign manager, Leonid Volkov, said in an interview. “We were under pressure. They hampered us and our contractors, cut down our banners, broke our cars, stole our newspaper, didn’t let us work. They pressured us with administrative

resources, were constantly on television, gave out groceries.”

At the rally on Monday, Navalny admitted feeling overwhelmed by his opponent’s resources.

“Each time when I am asked, ‘Do you believe in victory?’ I would say, ‘I believe in victory, I believe that we can win these elections,’” Navalny said. “But somewhere there was still the thought that it was impossible, that they have television, they have huge amounts of money, they can smear us all on the television shows. But what do we have?”

Although Sobyenin has repeatedly said that the elections were fair and honest, his insistence has only served to confirm the widespread belief that previous elections were rigged.

# In Lybia, strikes and threats bring oil industry close to a standstill

By Clifford Krauss  
*THE NEW YORK TIMES*

Two years after local militias overthrew the Libyan dictator Moammar Gadhafi, many of those same fighters have brought Libya’s critical oil industry to a halt, as a challenge to the latest in a series of that country’s interim governments.

Protests and strikes at several large export terminals and oil fields have throttled Libya’s daily oil production to one-tenth its capacity in recent days, jeopardizing the na-

tional economy and tightening world oil supplies at a time when unrest is spreading in the Middle East.

Prime Minister Ali Zeidan announced Wednesday that his government had issued arrest warrants for the strike leaders, setting up a potentially critical showdown.

“I won’t let anyone hold Libya and its resources hostage to these groups for long,” Zeidan told reporters in Libya’s capital, Tripoli, as he announced the arrest warrants. But oil and political analysts expressed doubt that he could enforce his threat since the

national military and police forces remain largely impotent.

The crisis began last month when armed groups seized the country’s major oil export terminals, alleging that the national oil company had engaged in corrupt sales. They also demanded autonomy for the eastern region where the rebellion against the Gadhafi government had been strongest. The protests have since moved west, carried out mainly by guards of several oil fields and pipelines seeking higher payments from the government.

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# Ceremony unites those affected by 9/11 and Marathon bombings

By Peter Schworm and Maria Cramer  
*THE BOSTON GLOBE*

Anna Sweeney was only 5 when her mother died in the Sept. 11 terrorist attacks and wishes she remembered her better. Sometimes she flips through scrapbooks her mother made and watches old home videos, just to hear her voice and see her face.

Sweeney’s mother, Madeline Amy Sweeney, was an American Airlines flight attendant who called ground services to alert them that the plane she was on had been hijacked. Her family remembers her heroism with a deep sense of pride, Anna said.

At memorials across the region, the victims of Sept. 11 were remembered in familiar rituals, the solemn reading of names, prayers and moments of silence, the tolling of church bells. But this year’s remembrances, set against the painful backdrop of the Boston Marathon bombings, car-

ried a renewed sense of loss, relatives said.

The Marathon bombings “brought back all those memories,” said Laura Ogonowski, 28, whose father, American Airlines pilot John Ogonowski, died in the attacks. “Such innocent people going about their everyday life.”

In a morning ceremony, Ogonowski and other relatives of 9/11 victims placed a wreath of white roses at the Garden of Remembrance in Boston’s Public Garden. More than 200 people killed in the terrorist attacks had ties to Massachusetts.

Ogonowski said the pain of losing her father, the captain of the first flight to hit the World Trade Center, has not subsided.

“Every year that passes is another year we are not with our father,” she said. “We miss him every day.”

At the State House ceremony, Carlos Arredondo received an award for civilian bravery, given in Sweeney’s name, for his response to the

Marathon bombings.

From his seat in the finish line bleachers, Arredondo rushed into the cloud of smoke and applied tourniquets to the legs of an injured spectator, Jeff Bauman. Famously captured in photographs wearing a cowboy hat, Arredondo then rushed Bauman through the chaos to the medical tent.

As he made his way to the podium to receive his award, Arredondo embraced Bauman in a poignant scene that drew a standing ovation. He also crossed the stage to shake hands with Bill Richard, whose son Martin, 8, was killed in the Marathon bombings.

“Amy Sweeney would have said she was just doing her job,” Arredondo said. “On April 15, I was just doing my duty.”

In a rare public appearance, Richard read an inspirational message and thanked organizers for “sharing their day” with victims of the Marathon attacks.

# Syria takes steps to join weapons treaty as US-Russia talks begin

By Michael R. Gordon and Steven Lee Myers  
*THE NEW YORK TIMES*

GENEVA — U.S. Secretary of State John Kerry and a team of U.S. arms control experts began talks with Russian counterparts Thursday on a plan to secure and dispose of Syria’s chemical weapons, and he set an early test for Syria’s top leader by insisting on quick disclosure of all data on the Syrian arsenal.

In a joint appearance before their talks Thursday evening, Kerry and the Russian foreign minister, Sergey V. Lavrov, told reporters they were serious about pursuing a diplomatic solution to the chemical weapons crisis provoked by the apparent use of those munitions in a mass killing last month in a Damascus suburb.

The United States has blamed President Bashar Assad of Syria for that attack but has delayed a punitive military strike following

the disposal plan put forward by Russia, the Syrian government’s most important backer. Russia has defended Assad, suggested that the rebels seeking to topple him were responsible, and warned that a U.S. military strike would only create more instability in the Middle East.

“Expectations are high,” Kerry said. “They’re high for the United States, perhaps even more so for Russia, to deliver on the promise of this moment.”

The meeting began hours after Assad announced for the first time that he had endorsed the Russian disposal plan and had formally applied for Syrian membership in the chemical weapons treaty, which gives him 30 days to declare his stockpiles of banned munitions for sequestering and destruction under international supervision.

But Kerry said that the standard procedures were too slow because Assad’s government had used chemical weapons against its own people.

“There is nothing standard about this process,” Kerry said. “The words of the Syrian regime in our judgment are simply not enough.”

With a tableau of American and Russian flags behind them, Kerry and Lavrov stood side by side in a public show of joint purpose. But differences quickly reemerged. Lavrov stressed that the “solution of this problem will remove any need for a strike.”

Kerry emphasized that “only the credible threat of force” had prompted Assad to acknowledge that his nation possessed chemical weapons in the first place and that a military option was needed to ensure that Assad fulfilled his promises.

At the end of their presentations, Lavrov seemed surprised by the length and tone of Kerry’s statement. “I’m not prepared with the extended political statement,” Lavrov said, “Diplomacy likes silence.”

## North Korea appears to resume plutonium program

WASHINGTON — New satellite photographs showing steam emerging from a newly reconstructed nuclear reactor in North Korea suggest that the country may be making good on its promise to resume the production of plutonium for its small nuclear arsenal, six years after it reached an agreement with the Bush administration to dismantle the facility.

The discovery of the new activity at the Yongbyon nuclear complex was reported by the U.S.-Korea Institute, at Johns Hopkins University, which follows the North’s nuclear program closely.

If the source of the steam proves to be the restarting of the reactor, it would enable the North, after a year or more, to begin to add to its arsenal of plutonium weapons. It would also underscore the failure of efforts by four U.S. presidents to stop the North Korean program; so far, the North has conducted three nuclear tests, including two during the Obama administration.

In recent weeks the North Koreans have expressed a willingness to return to six-party negotiations on their nuclear program with the United States, China, Russia, South Korea and Japan, although they have not clarified if they would be willing to agree to the goal of disarmament. The United States and its allies have said they would resume the talks only if the North agreed to eventually give up its nuclear arsenal.

—David E. Sanger, William J. Broad, and Choe Sang-Hun, *The New York Times*

## China unveils plans to reduce air pollution

BEIJING — The Chinese government announced an ambitious plan on Thursday to curb air pollution across the nation, including setting some limits on coal burning and taking old vehicles off the roads to ensure a drop in the concentration of particulate matter in cities.

The plan, released by the State Council, China’s cabinet, filled in a broad outline that the government had issued earlier this year. It represents the most concrete response by the Communist Party and the government to growing criticism for allowing the country’s air, soil and water to degrade to abysmal levels because of corruption and unchecked economic growth.

The criticism has been especially pronounced in some of China’s largest cities, where anxious residents grapple with choking smog that can persist for days and even weeks. In January, the concentration of fine particulate matter in Beijing reached 40 times the exposure limit recommended by the World Health Organization.

—Edward Wong, *The New York Times*

## Twitter confidentially submits plans for IPO

Twitter filed the initial paperwork Thursday for its long-awaited initial public offering of stock.

Unlike with typical IPOs, however, potential investors and the public will not yet get a look at the company’s finances.

The company filed its preliminary prospectus, known as an S-1, with securities regulators using a provision of the Jumpstart Our Business Startups, or JOBS Act, that allows the company to keep its initial filings confidential if it has less than \$1 billion in annual revenue.

Goldman Sachs is leading the underwriting for the offering, according to a person briefed on the matter.

While the company hopes to go public by the end of the year, the actual public offering could take place in early 2014, according to people who were briefed on the matter but could not be named because they are not allowed to speak publicly for the company.

Twitter first became profitable in December of last year, generating a record of more than \$100 million in the final quarter of 2012. The company is on target to make \$650 million, according to internal estimates.

—Vindu Goel and Nick Bilton, *The New York Times*

### WEATHER

## Sizzling summer to slide aside to stormy showers

By Ray Hua Wu

Our latest serving of heat is not to stay for long. Though we have recently found time to cherish some remnants of summer, a cold front is set to pass through the Boston area this morning, bringing rain and likely thunderstorms. Highs today are in the upper 70s°F. Expect further plunging into the upper 60s°F for tomorrow. Into next week, expect mostly sunny skies with highs continuing in the

upper 60s °F.

In weather news elsewhere, Tropical Storm Humberto gained hurricane status yesterday in the Eastern Atlantic, the first hurricane in 2013. Out of years so far in this century, 2013 ties with 2002 for the latest date, September 11, of the coming of the first hurricane. In fact, no hurricane season has had a later first hurricane since 1941. Humberto is very unlikely to pose a threat to the United States.

### Extended Forecast

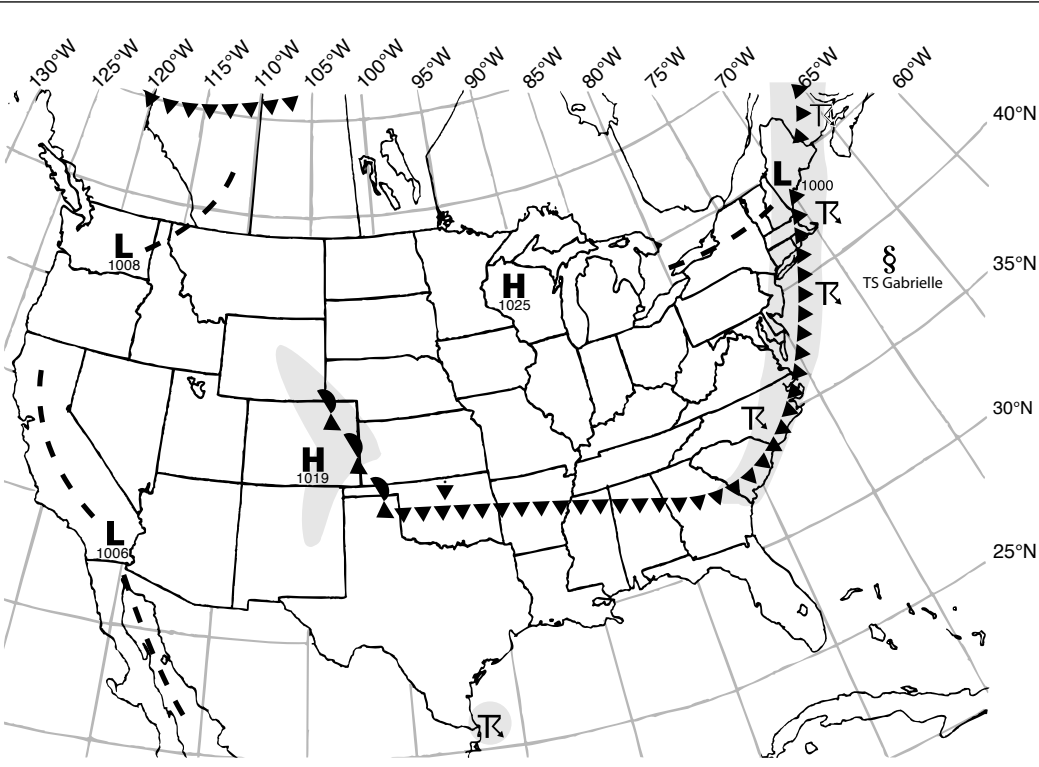
**Today:** Morning thunderstorms, cloudy afternoon. High around 79°F (26°C). Winds Northwest up to 20 mph.

**Tonight:** Cloudy. Low around 54°F (12°C). Winds Northwest up to 15 mph.

**Tomorrow:** Sunny. High around 69°F (21°C). Winds Northwest up to 10–15 mph.

**Sunday:** Cloudy. High in the mid 70s°F (mid 20s°C).

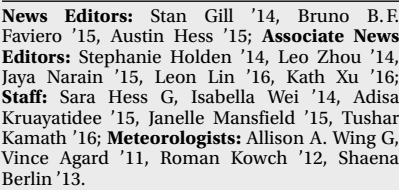
**Monday:** Mostly sunny. High in the low 70s°F (low 20s°C).



Situation for Noon Eastern Time, Friday, September 13, 2013

Weather Systems	Weather Fronts	Precipitation Symbols	Other Symbols
<b>H</b> High Pressure	Trough	Snow	Fog
<b>L</b> Low Pressure	Warm Front	Rain	Thunderstorm
<b>S</b> Hurricane	Cold Front	Light	Haze
	Stationary Front	Moderate	
		Heavy	

Compiled by MIT  
Meteorology Staff  
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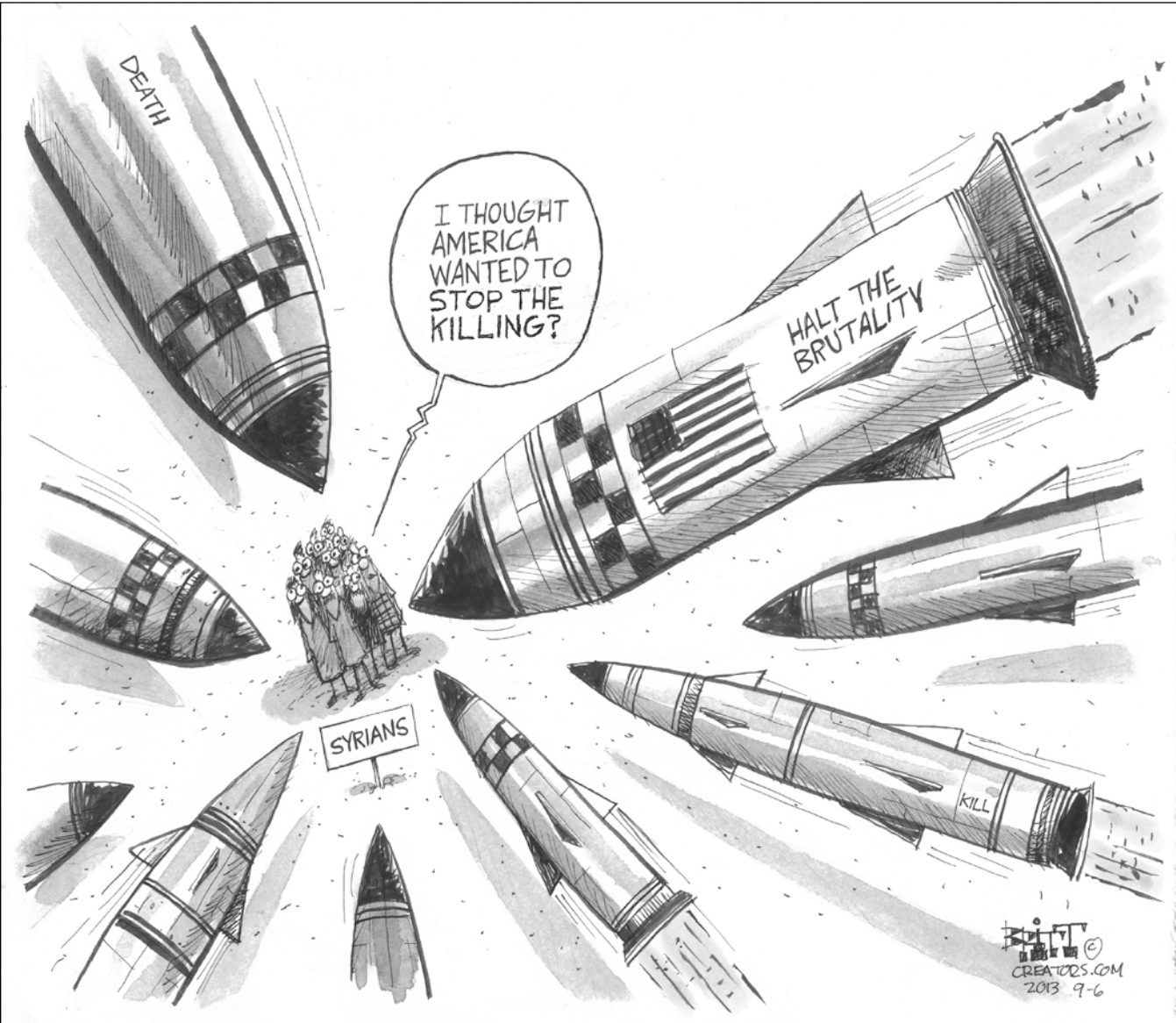
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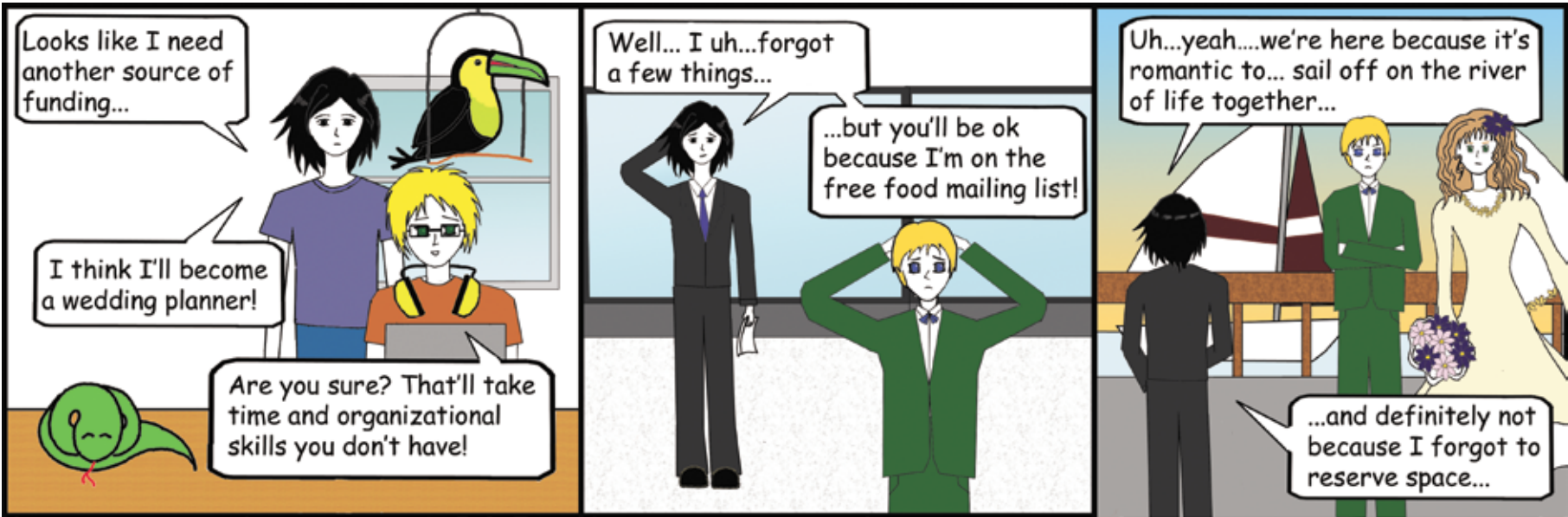
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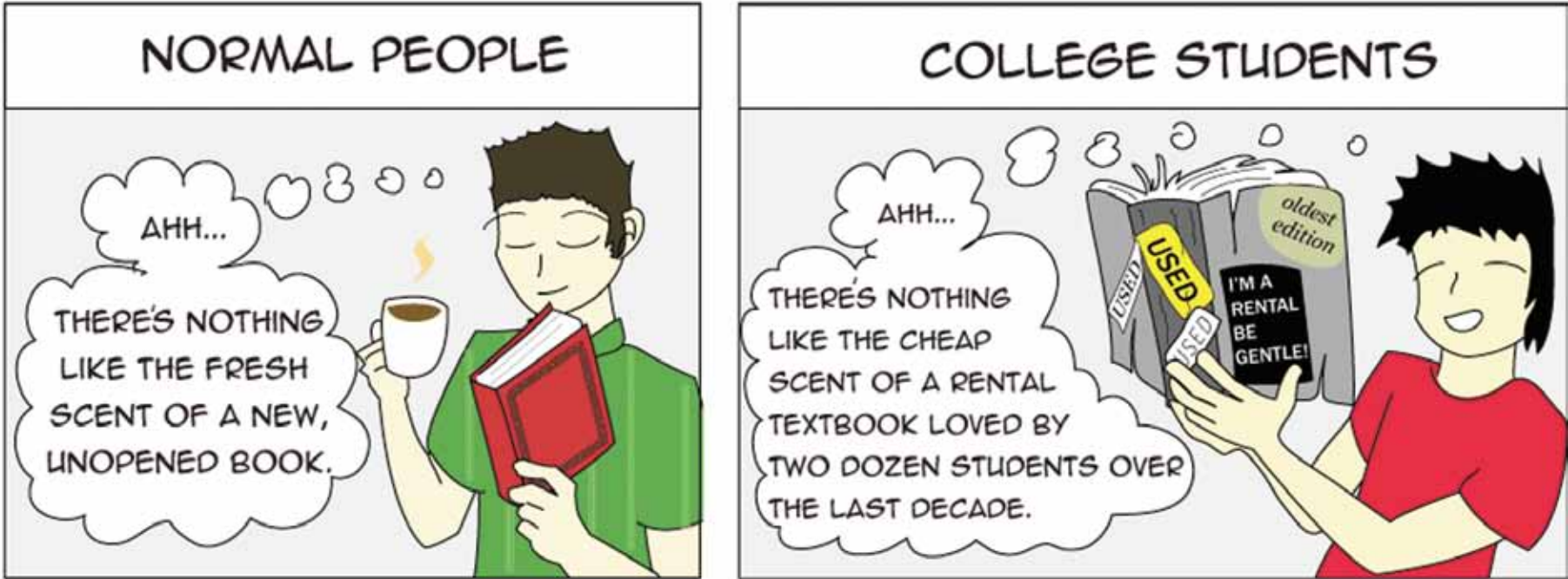


Somewhere on the Search for Meaning by Letitia Li



Q.E.D. (QUITE EASILY DONE)

BY ERIKA TRENT



Wikipedia: Allied Barton was named to the "G.I. Jobs Top 100 Military Employers List." Cool..... Anyway, I'm totally not intoxicated. Have a great weekend.

UPPERCUT by Steve Sullivan





# SKETCHY

by Dohyun Lee

- How was your summer?



# Coffee Maker

by Bruce R. Sutphin

1 Unkind comment  
5 Skyscraper beam  
9 Separates with a sieve  
14 Financial burden  
15 Nucleus  
16 Chance to hit  
17 Maintains resentment  
20 Prolific patentee  
21 American Dance Theater founder  
22 Frat letters  
23 Icemen's org.  
25 Ostrich's origin  
26 Airline watchdog  
29 Grand-scale  
31 Annoy, so to speak  
33 Shady spots  
35 Pate protector  
38 Planting soil  
39 Part of a benefits package  
41 "Gotcha, man"  
43 Well-fortified  
44 Crystal in some watches  
46 Move like a bunny  
47 Squiggly swimmers  
51 USMC rank  
52 Root veggie  
54 Big mess  
56 Weather Channel graphic  
57 Listless feeling  
59 Stick fast  
61 Starts a table-tennis match  
65 Indelicate  
66 No longer exists  
67 Victorian era outburst  
68 Trip-odometer button  
69 Barracks lineup  
70 Poor marks

1	2	3	4		5	6	7	8		9	10	11	12	13
14					15					16				
17					18					19				
20							21							
22					23		24		25			26	27	28
29				30		31		32		33		34		
				35	36				37		38			
			39							40				
41	42						43							
44						45		46				47	48	49
50						51		52		53		54		55
					56			57		58		59		60
61	62	63								64				
65							66					67		
68							69					70		

1 Underhanded plan	34 Trash hauler
2 Fill the truck	36 What grown children may leave behind
3 Home of St. Francis	37 Newbies
4 HS auxiliaries	39 Online activity
5 "Allow me"	40 Toaster treats
6 Post-office offering	41 Mental measures
7 Ground measure	42 Make faces for the camera
8 Lace again	45 Clownish
9 Lawn shade	48 Come forth
10 Response to a compliment	49 Immature insects
11 Justice Dept. agency	50 Camera settings
12 Prepare, as leather	53 Composer's creation
13 Usual amt.	55 NFL gains
18 René's refusal	57 Alternatively
19 Gymnast Korbut	58 In that event
24 Tibetan priests	60 Pay attention to
26 Y-shaped intersection	61 TiVo ancestor
27 Oils and pastels	62 Unrefined metal
28 Burning residue	63 Spanish article
30 Singers in robes	64 It's N of NY
32 Sophomore's grade	

# Sudoku

			7	3		8		
		1			4		7	2
			1				4	
		4	8	7	3	2		5
				1				
8		2	4	6	9	1		
	9				5			
4	2		3			6		
		7		9	1			

Instructions: Fill in the grid so that each column, row, and 3 by 3 grid contains exactly one of each of the digits 1 through 9.

# Techdoku

24x	120x				3
	6x		360x		5
5		4x			4
6x				4-	
21+					2
2x			120x		

Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–6. Follow the mathematical operations for each box.



Media Lab discusses innovation in big corporations



BRUNO B.F. FAVIERO—THE TECH

Joi Ito, director of the MIT Media Lab and Ethan Zuckerman, director of the MIT Center for Civic Media participated in a discussion on Thursday about the challenges of innovation within large structured organizations like big corporations and newspapers.

Blonsky Device and beetles  
Adventurous researchers at 2013 Ig Nobels awarded for eating shrews and researching drunk goggles

Ig Nobel, from Page 1

by accident during the ceremony), and \$10 trillion Zimbabwean dollars.

This year’s archaeology winners went so far as to involve themselves in their research — Brian Crandall and Peter Stahl briefly boiled a dead shrew, swallowed it whole, and then meticulously analyzed everything they excreted in order to determine which bones would dissolve inside the human digestive system. Their resulting paper was published in the Journal of Archaeological Science.

“We will be recruiting outside,” Crandall joked during his speech.

Other Ig Nobel winners confirmed long-suspected beliefs, such as the group of French and American scientists who affirmed that people who are drunk think that they are more attractive. Their paper was entitled “Beauty is in the Eye of the Beer Holder.”

On the other hand, the winners of the joint prize in biology and astronomy demonstrated that dung beetles use the Milky Way to help find their way home when they get lost.

“South African beetles teach us that to do good science, you’ve got to have BALLS,” exclaimed one of the scientists at the end of her acceptance speech, before joining her colleagues in throwing large bouncy balls into the audience.

The event also featured the traditional Win-a-Date-With-a-Nobel-Laureate Contest.

The ceremony’s facetiousness can be seen in its traditionally short opening and concluding remarks, which were composed entirely of the words “Welcome, Welcome,” and “Goodbye, Goodbye,” respectively.

This year’s ceremony also included the premiere of a mini-opera entitled “The Blonsky Device.” The show was inspired by the work of George and Charlotte Blonsky, who posthumously won the 1999 Ig Nobel Prize for their patent “Apparatus for Facilitating the Birth of a Child by Centrifugal

Force” (US patent #3216423).

In the words of Marc Abrahams, the organizer of the annual Ig Nobel Prizes, “The method is simple: the pregnant woman is strapped on to a circular table; the table is then rotated at high speed.” (George Blonsky ’25 graduated with a degree in mining engineering from MIT.) The opera’s accompanying orchestra was composed exclusively of MIT and Harvard physicians and researchers.

The event also featured two paper airplane deluges, in which audience members threw paper airplanes that they had folded before the show onto the stage, and the traditional Win-a-Date-With-a-Nobel-Laureate Contest, which went to a spectator who was handed a special program.

Although each Ig Nobel winner was given only a minute to deliver an acceptance speech at the ceremony, they will have the opportunity to field questions and explain their work more in-depth at the annual Ig Informal Lectures. This year’s talks will take place on Saturday, Sept. 14 at 1 p.m. in 26-100. The event is free and open to everyone.

Calculus ASEs pass rates remain high

Chemistry ASE aside, test scores of the 2017s similar to past years’

ASE, from Page 1

courses, putting students who received AP credit “at a disadvantage moving forward,” said Julie B. Norman, director of Undergraduate Advising and Academic Programming. The faculty develops the exams, and each ASE is similar to or harder than the course final, ensuring that freshmen who pass are thoroughly prepared to advance to the next level.

The calculus ASEs had the typical high pass rates: 65.6 percent for 18.01 and 75.8 percent for 18.02.

For some of the most common ASEs — 7.012 (Introductory Biology), 5.111, 18.01 (Single Variable Calculus), 18.02 (Multi Variable Calculus) and 8.02 (Electricity and Magnetism) — the percentage of students passing remained fairly similar to past years.

The calculus ASEs had the typical high pass rates: 65.6 percent for 18.01 and 75.8 percent for 18.02. The large percentage of students passing is due to the fact that content is “pretty standard” for these classes, according to Mathematics academic administrator Barbara Peskin.

46.8 percent of students passed the 8.02 exam, a slight drop from the

56.1 percent who passed last year, but consistent with the scores from the past couple of years. This year’s 26.8 percent pass rate for Biology was nearly identical to last year’s 27 percent. However, the Class of 2015 had a 51 percent pass rate in the Biology ASE. On the other hand, 8.01 exam results were unusually low: past years have seen 40–50 percent of freshmen passing, but this year only 29.3 percent passed.

The less popular ASEs, including 18.03 and 18.06, had pass rates of 97.1 and 78.6 percent respectively. This year, as in most years, only a couple of students did not pass each test. Yuanqing “Kai” Xiao ’17, who is considering a major in Course 18, studied for 18.02 and 18.03 on OCW. After deciding to self-study for the 18.03 test over the summer, Xiao began working on the 35-section packet that must be turned in before a student attempts the 18.03 exam. “Working through the packet actually helped me learn 18.03, and as a result, I found the test not too hard,” he said. Xiao took the ASEs because he wanted to advance right away to “more interesting math courses.”

The overall pass rate on the ASEs was 54.2 percent. The ASEs are offered during orientation, at the end of IAP, and part of the course finals schedule. However, as Peskin warns, it is recommended to attempt them as freshmen or sophomores, lest one ends up the sole senior in 18.02.

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# Experts put Syria debate in perspective

## Rebel fragmentation, chemical weapons treaties, Obama's quandary

**Syria, from Page 1**

fragmented opposition forces composed of thousands of independent militias, and no single representative body likely to be deemed legitimate by the Syrian people, said Norton.

**The situation in Syria, Norton said, is less conducive to stability than Lebanon three decades ago.**

The situation in Syria, Norton said, is less conducive to stability than the atmosphere was in Lebanon three decades ago, where various institutions and ministries remained intact throughout the war. In respect to these factors, Norton said that he was “puzzled as to what we expect to accomplish with the use of force,” and that he “[has] not been able to answer this question for [himself] or for the many other Americans who are watching the situation so intensely.”

Following Norton at the podium was Guillemin, a senior advisor at the MIT Security Studies Program who has worked extensively on issues regarding biological and chemical weapons. Guillemin opened with a brief history of

chemical weapons and the treaties meant to limit their use, touching on their inception during the First World War as methods meant to dissolve the stalemate of trench warfare. He also spoke of the Geneva Protocol that followed the armistice, through which countries became parties to the treaty that would “[prohibit the use] in war of asphyxiating, poisonous, or other gases, and of bacteriological methods of warfare.”

It would take almost half a century for the United States to ratify the treaty, due to internal movements of isolationism and World War II. But in 1975, six years after President Nixon renounced biological warfare and shut down all US facilities, President Ford finally ratified the protocol with Senate approval. In the following decades, many countries also ratified the 1997 Chemical Weapons Convention, which outlawed even the production and stockpile of chemical weapons and required parties to destroy existing stockpiles. Today there exists the Organization for the Prohibition of Chemical Weapons (OPCW), which assists countries with the disposal of such materials. According to Guillemin, the problem, however, is that with disposal, “the burden of action is on the state; the state, for example, pays for the destruction of stockpiles ... facilities” And with Syria, she put plainly, “We don’t have a

state to put the burden on.”

Posen, who is Ford International Professor of Political Science at MIT and director of MIT’s Security Studies Program, was the final speaker. In a lecture that lasted for the majority of an hour, he underlined the shaky state of U.S. intelligence in Syria and the scarcity of details that we have concerning the events of August. He addressed one concerning aspect in particular, that the Assad regime had the means but little motive to use chemical weapons in a move that would surely draw an international outcry, especially as its forces had recently succeeded in pushing the opposition from various parts of the country.

**The Assad regime had the means but little motive to use chemical weapons in its attacks on the opposition.**

The rebels on the other hand, Posen explained, had the motive to do so in order to provoke an intervention, but likely did not have the means to carry out such an attack. Although he believes that it is unlikely that the opposition was responsible for the gassing of the civilians, he warned of the ex-

istence of other explanations for what happened, namely miscommunication or insubordination within the Syrian Army.

As for the Obama Administration, Posen attributes its stance to a combination of Cold War-era “domino effect” ideology concerning U.S. credibility, a belief that the Iranians will take a lesson from a military strike on Syria, and a certain degree of uncertainty possessed by the President himself. Posen’s own stance is clear with this quote: “There is the notion that ... Americans have a duty and a right to enforce [international law] – Americans have neither the duty nor the right.”

Once all three of the experts had spoken, the floor was open for any audience who wished to ask questions in the remaining time. Several concerning the views of the American public, the refugee situation, and the validity of alternative options to direct military intervention were posed.

The panel ended with hands still in the air, as the time limit prevented multiple queries from being addressed. It is without doubt that the incoming days and weeks will be filled with many more similarly unanswered questions. In the end, perhaps the situation can be best summed up by borrowing a few of Posen’s words: “It’s not easy to find anyone who you like whose values reflect our own.”

**Solution to Crossword**

from page 8

S	L	A	P	I	B	A	R	S	I	F	T	S			
C	O	S	T	C	O	R	E	A	T	B	A	T			
H	A	S	A	N	A	X	E	T	O	G	R	I	N	D	
E	D	I	S	O	N	A	I	L	E	Y					
M	U	S		N	H	L	E	G	G	F	A	A			
E	P	I	C	E	A	T	A	R	B	O	R	S			
				H	E	L	M	E	T	E	A	R	T	H	
				C	O	M	P	A	N	Y	P	E	R	K	
I	M	H	I	P		S	T	R	O	N	G				
Q	U	A	R	T	Z	H	O	P		E	E	L	S		
S	G	T		Y	A	M		S	T		M	A	P		
				E	N	N	U	I		A	D	H	E	R	E
V	O	L	L	E	Y	S	F	O	R	S	E	R	V	E	
C	R	A	S	S		I	S	N	T	E	G	A	D		
R	E	S	E	T		C	O	T	S		D	E	E	S	

**Solution to Techdoku**

from page 8

4	5	6	1	2	3
6	1	2	3	4	5
5	6	1	2	3	4
2	3	4	5	6	1
3	4	5	6	1	2
1	2	3	4	5	6

**Solution to Sudoku**

from page 8

2	4	9	7	3	6	8	5	1
6	8	1	9	5	4	3	7	2
5	7	3	1	2	8	9	4	6
9	1	4	8	7	3	2	6	5
7	3	6	5	1	2	4	9	8
8	5	2	4	6	9	1	3	7
1	9	8	6	4	5	7	2	3
4	2	5	3	8	7	6	1	9
3	6	7	2	9	1	5	8	4



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# Saints, Bucs to engage in close division matchup

## Reggie Bush and the Lions expected to overcome Carson Palmer and the Cardinals

NFL, from Page 12

### Carolina Panthers @ Buffalo Bills

Sunday, Sept. 15 1:00 p.m.

Carolina's defense played well last week against Seattle, but their offense couldn't get anything going against the tough Seahawk defense. Cam Newton struggled to move the ball down the field, only throwing for 125 yards and rushing for 38 more. He will need to contribute more to the offense this week, as he is by far their most dynamic player. Buffalo had their hearts broken last week against New England, coming two seconds away from a huge upset victory behind their rookie quarterback E.J. Manuel. Manuel played extremely well in his first start, throwing two touchdowns and no interceptions. If he can contribute similarly the entire season, the Bills may have finally found their quarterback. Manuel will have a longer leash this week after proving that he can make good decisions against a quality team.

Prediction: 24-13 Bills

### Minnesota Vikings @ Chicago Bears

Sunday, Sept. 15 4:05 p.m.

The Vikings' defense struggled mightily against the Lions, but Detroit is an incredibly difficult team to defend. Chicago does not have as many weapons and the defense should have a less challenging week. Adrian Peterson started the game off with a bang with a 78-yard touchdown on the first play. However, after that, he only ran for 25 yards on 17 carries. The MVP will undoubtedly get back on track next



week. Minnesota's run defense, once a hallmark of the team, got gashed by Reggie Bush in the rushing and passing game, and they will need to improve big time going forward. Jay Cutler continued to find his favorite receiver in Brandon Marshall last week, and I don't expect that to change while both of them are wearing Chicago uniforms. Their rush defense played well, but their secondary did not, allowing A.J. Green to do seemingly whatever he wanted. Nevertheless, the Bears should have enough to beat Minnesota this week.

Prediction: 20-7 Bears

### New Orleans Saints @ Tampa Bay Buccaneers

Sunday, Sept. 15 4:05 p.m.

The Saints seem like they are back to their old selves with the return of Sean Payton. Drew Brees continues to do what he does best — throw for a ton of yards and put pressure on the opposing secondary. He threw for over 350 yards against the good Atlanta defense and I expect him to have another nice day against Tampa. New Orleans has never been a rushing team, but it would be nice if Darren Sproles and Pierre Thomas could get something going this week to help Brees out. Tampa Bay lost a heart-breaker against the Jets, seemingly snatching defeat from the jaws of victory. After a personal foul, they allowed the Jets to drive up the field and kick a game winning field goal. Doug Martin struggled in his first game after his great rookie season, but I'm confident that he will get on track. This will be a good division matchup.

Prediction: 34-27 Saints



### Detroit Lions @ Arizona Cardinals

Sunday, Sept. 15 4:05 p.m.

Detroit has a good offense, there's no doubt about that. Adding Reggie Bush in the offseason was simply icing on the cake, and he played incredibly in his Lions debut. Their problem is, and has been, their defense.

They gave up 24 points to the Vikings last week, and they need to solidify their secondary if they want to be Super Bowl contenders. Detroit did get 3 interceptions on Christian Ponder, however, which is incredibly promising. They will face a more talented quarterback this week in Carson Palmer, and will need to figure out some way to stop Larry Fitzgerald and the rest of the Cardinals' offensive attack. Palmer played well in his first Cardinals' start, and he should bring stability to a position where the Cardinals had a revolving door last season.

Prediction: 38-20 Lions



### Jacksonville Jaguars @ Oakland Raiders

Sunday, Sept. 15 4:25 p.m.

Jacksonville is probably the worst team in the league right now, and they showed it last week. They could only muster up two points against the Chiefs, and they couldn't slow down their offense whatsoever.

Blaine Gabbert played terribly, throwing two interceptions and having a completion percentage lower than 50%. Even All-Pro running back Maurice Jones-Drew only had 45 yards, so the Jags couldn't get offensive production from anywhere. Oakland had a quarterback change in the offsea-



son, with Terrelle Pryor now taking the reins. He played decently, but he could have played a little bit better, as he threw two interceptions that contributed to the Oakland loss. He will be a big threat with his legs, however, as he ran for over 100 yards and was the leading rusher for the game. As the season goes on, he should get better and regain his former Ohio State glory.

Prediction: 20-6 Raiders

### Denver Broncos @ New York Giants

Sunday, Sept. 15 4:25 p.m.

Denver completely embarrassed the Ravens secondary last week, as Peyton Manning tied an NFL record for touchdowns in a game with 7. He probably won't have the same success this week, but he



will still have a good game against the Giants. They allowed Tony Romo to do whatever he wanted last week, and Manning will do exactly the same. Their defense held one of the best running backs in the league, Ray Rice, to 36 yards, so they shouldn't have any problem with the New York rushing attack. The Giants were careless with the ball last week against Dallas and had six turnovers. If they do that against Denver, they will have absolutely no chance of winning. The Broncos will take advantage of those mistakes every time, so Eli Manning must do a better job of taking care of the ball.

Prediction: 34-23 Broncos

### San Francisco 49ers @ Seattle Seahawks

Sunday, Sept. 15 8:20 p.m.

Colin Kaepernick had one of his best games as a starter last week against the Packers. He threw for

over 400 yards, the most he has thrown for in any start in his career, and he also threw three touchdowns. The most impressive part of the victory though, is that he did not run the ball nearly as much as he has in the past. He showed that he can beat a team with his arm alone, but he still maintains the threat of being one of the most dangerous scramblers in the league. The Seahawks have a dynamic quarterback of their own in Russell Wilson, who threw for over 300 yards in their win over the Panthers last week. This matchup is a repeat of their playoff thriller last year and it is the 'can't miss' game of the week.

Prediction: 24-23 49ers



### Pittsburgh Steelers @ Cincinnati Bengals

Monday, Sept. 16 8:40 p.m.

The Steelers continue to allow Ben Roethlisberger to get hit over and over again. Their offensive line is easily the worst part of their team, and it really contributes to their lack of offensive production. Pittsburgh struggled to run the ball without their mainstay running back Rashard Mendenhall after he left for the Cardinals. Their defense played with typical Steeler toughness, but we will see how good their defense is against a more high-powered offense like Cincinnati's. The Bengals played very well, even though they lost to the Bears last Sunday. Andy Dalton has to take better care of the ball, as he threw two interceptions, but I'm confident he will play better as the season goes on.

Prediction: Bengals 17-10



# Kaka heads back to AC Milan for free

## David Villa moves to Atletico Madrid, fills the void left by Falcao

Soccer, from Page 12

newly promoted French Ligue 1 club, AS Monaco. Some say that Falcao chose money over success, but his 3 goals in 4 matches for Monaco and Monaco's current standing in the league table (first place) show that Falcao may get money and success at the same time. Radamel Falcao has scored 194 times and assisted another 33 times on 310 career appearances, which means that he scores every 127 minutes. Every team aiming for success needs a good striker and Falcao is one of the best, so Monaco was smart to sign him. However, it waits to be seen if Falcao will reach success or be forgotten and lost along with the money.

### 5. Mario Gotze (From Borussia Dortmund to Bayern Munich; Price: 37 Million Euros)

On the eve of the Champions League final between Borussia Dortmund and Bayern Munich, Bayern Munich activated Gotze's 37 million Euro release clause, starting a debate as some claimed Gotze to be a Judas for moving to Dortmund's rivals. Gotze defended himself by saying that he wanted to learn and experience new things and that Bayern Munich's new manager, Pep Guardiola would improve his game even more. Gotze had 19 goals and 22 assists last season for Dortmund as his season was cut short by an injury. His technique and talent will be key in Bayern's upcoming season as Guardiola has experience managing players of similar talent and style in Barcelona.

### 6. Kaka (From Real Madrid to AC Milan; Price: Free)

Kaka moved back to AC Milan for free after an unsuccessful run with Real Madrid. The Brazilian attacking midfielder reached the peak of his playing career with AC Milan and then moved to Real Madrid, but his numbers with Milan were much better than his statistics at Real Madrid. At Milan, he appeared 262 times in which he scored 95 goals and contributed 47 assists. At Real Madrid, he appeared 120 times and scored 29 goals while assisting 38 times. The key aspect of this transfer is the price: Kaka returned home for free while Real Madrid paid 65 million Euros to transfer him from Milan in 2009, so this is a great transfer for Milan in multiple ways.

### Kaka reached the peak of his playing career with AC Milan.

### 7. David Villa (From Barcelona to Atletico Madrid; Price: 5.1 million Euros)

When Atletico Madrid sold Falcao the question rose of whether they could perform without their star forward. However, the club acquired David Villa from Barcelona for an extremely reasonable fee. It didn't take too long to prove how important of a transfer David Villa would be for the team as he scored the only goal for Atletico Madrid in the first leg of the Supercopa against Barcelona, which ended 1-1. In 3 league matches so far, he has

scored once and assisted once. David Villa has managed to start off the right way with Atletico Madrid and with the help of his fellow teammates, the Atletico Madrid fans will forget all about Radamel Falcao.

### 8. Edinson Cavani (From Napoli to Paris Saint-Germain; Price: 64 Million Euros)

Edinson Cavani established himself as one of soccer's most lethal strikers during his time at Napoli. In 138 appearances with Napoli, he scored 104 goals and contributed 26 assists. His price tag seems to be justified with these numbers. What's more, he made the perfect start with Paris Saint-Germain, scoring PSG's late equalizer against Ajaccio in the second match day as his first goal for the club. In four matches, he has managed to score twice so far for the Paris-based club. PSG already had a lethal offensive pool with players like Zlatan Ibrahimovic, Lucas Moura, Jeremy Menez and Ezequiel Lavezzi. Edinson Cavani's edition only solidifies PSG's presence as a dominant offensive force.

### 9. Carlos Tevez (From Manchester City to Juventus; Price: 11.8 Million Euros)

Carlos Tevez has always been a big threat as a striker, but his career is full of on and off performances, especially with Manchester City. Juventus did not only acquire Carlos Tevez but gave him the number 10 jersey. Before Tevez, that number belonged to Italian and Juventus-legend Alessandro Del Piero.

This just shows what Juventus are expecting Tevez to live up to. He has already started his scoring run for the club with 3 goals in 3 matches. Tevez will look to prove that he has still got the talent to play at a top level club and Juventus will be glad to have acquired him over the summer.

### Tevez will look to prove that he has the talent to play at a top club.

### 10. Isco (From Malaga to Real Madrid; Price: 27 Million Euros)

Isco was the star of Malaga last year. He was the key component in their run in the Champions League. With Malaga, he made 51 appearances and scored 13 goals with 10 assists. He was also the star of the U-21 Spanish team for the U-21 Euro 2013 championship in which he scored 3 goals in 5 matches. He has already made a remarkable start for Real Madrid with 3 goals and 1 assist in 3 matches. As a young player he will definitely improve his game in years to come and will be there to help Real Madrid along the way. It seems that with Mesut out of the picture, Isco will also have to fulfill the role of central attacking midfielder, but he should come through.

The transfer window saw some of the highest fees ever paid and while some may seem worth the money, other deals seem unreasonable. Nevertheless, the transfer window was full of excitement as many top players ended up switching leagues.

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